1. Are the following congruences solvable:

   (a) $x^2 \equiv 66 \bmod 191$;

   (b) $x^2 \equiv 7! \bmod 83$;

   (c) $x^2 \equiv 30 \bmod 77$;

   (d) $x^2 \equiv 38 \bmod 187$;

   (e) $2x^2 + 3x + 5 \equiv 0 \bmod 101$?

2. For which primes $p > 2$ are the following congruences solvable:

   (a) $x^2 \equiv 3 \bmod p$;

   (b) $x^2 \equiv 5 \bmod p$?

3. Prove that if $1997 \mid a^2 - 2b^2$ (for $a, b \in \mathbf{Z}$), then $1997 \mid a, b$. (Note that 1997 is a prime.)